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ABSTRACT

Program planning and implementation surveys were completed by 128 teachers of learning disabled students in 42 states. Seven research questions relating to the relationship between teacher or student characteristics and decision behavior were addressed through chi-square analyses or one-way analyses of variance. It was found that the types of information used in making decisions were differentially related to the kinds of decisions made. Except for the finding that teachers who relied on test-based information in ongoing evaluations were more likely to make program changes than were teachers who used observational information, no relationships were found between teacher characteristics and specific decisions or factors influencing decisions. Likewise, specific student characteristics were not found to be useful predictors of decision behavior. Implications for judging effective teaching and increasing effectiveness are discussed. Appended are a program planning and implementation survey and a section on categorization of data. (Author)

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Research Report No. 137

INSTRUCTIONAL DECISION-MAKING PRACTICES OF TEACHERS OF LEARNING DISABLED STUDENTS

Margaret L. Potter

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September, 1983

Abstract

Program planning and implementation surveys were completed by 128 teachers of learning disabled students in 42 states. Seven research questions relating to the relationship between teacher or student characteristics and decision behavior were addressed through chi-square analyses or one-way analyses of variance. It was found that the types of information used in making decisions were differentially related to the kinds of decisions made. Except for the finding that teachers who relied on test-based information in ongoing evaluations were more likely to make program changes than were teachers who used observational information, no relationships were found between teacher characteristics and specific decisions or factors influencing decisions. Likewise, specific student characteristics were not found to be useful predictors of decision behavior. Implications for judging effective teaching and increasing effectiveness are discussed.

Instructional Decision-Making Practices of Teachers of Learning Disabled Students

Examination of teacher thinking is a relatively new development in research on teaching. It is considered by some (Clark, 1979; Medley, 1979) to be the most recent approach in attempts to understand and characterize teacher effectiveness. Medley (1979) identifies the first stage of teacher effectiveness research as one in which researchers attempted to identify the teacher personality traits and characteristics believed to determine effective teaching. The next stage focused on the methods of teaching being used. Then effectiveness was perceived as being a product of the climate of the classroom and the interaction between teacher and student. Emphasis has now shifted to some extent to viewing effective teachers as those who have mastered a repertoire of competencies and who can use these competencies efficiently and appropriately, in other words, teachers who operate as professional decision makers.

Clark (1979) describes five different approaches to research on teacher effectiveness--three of the approaches he terms "quantitative" (process product, aptitude-treatment interaction, and engaged time) and two are characterized as "qualitative" approaches (ethnographic and cognitive information processing). Clark's thesis is that in the face of equivocal results in teacher effectiveness studies, researchers have opted either to attempt to improve and make more rigorous the measurement procedures used in the "quantitative" studies, or to change the traditional questions of "What works?" and/or "What works with whom?" to the more qualitative question of "What is happening here and why?"

In one of the first efforts to examine specifically the intellectual, rather than the observable, behaviors of teachers, Joyce and Harootunian (1964) found that student teachers teaching a science lesson had extremely vague and unclear objectives and rarely could explain why they had organized the lesson in the way that they had. The results of this study led the authors to call for greater emphasis in teacher education programs on teaching teachers to be good problem solvers and examination of teacher effectiveness in terms of the problem solving abilities of teachers: "What is needed is not so much an assessment of the way the teacher interacts with children at any moment as the intellectual processes which results in that action" (Joyce & Harootunian, 1964, p. 420).

More recently, Shavelson and his colleagues at UCLA (Borko, Cone, Russo & Shavelson, 1979; Shavelson, 1973, 1978; Shavelson & Borko, 1979; Shavelson, Cadwell, & Izu, 1977), Hunter (1979), Gil (1980), Buike (1980) and others have characterized the teacher as primarily a decision maker, and they have defined teaching as "the process of making and implementing decisions, before, during, and after instruction, to increase the probability of learning" (Hunter, 1979; p. 62). Shavelson (1973), in fact, calls decision making the basic skill of teaching. Others have characterized teachers as information processors (Joyce, 1980; Shulman & Elstein, 1975; Vinsonhaler, Wagner & Elstein, 1978), as judges (Byers & Evans, 1980; Clark, Yinger & Wildfong, 1978; Floden, Porter, Schmidt, Freeman & Schwille, 1980), diagnosticians (Gil, 1980; Gil, Vinsonhaler, & Wagner, 1979; Weinshank, 1978, 1980), and planners (Clark & Yinger, 1979; Gil,

Hoffmeyer, Van Roekel, & Weinshank, 1979; Shavelson & Borko, 1979; Weinshank, 1978, 1980; Zahorik, 1970, 1975). Whatever the term used, it is the thinking and reasoning processes of the teacher that are of interest.

Clark and Yinger (1979) state, "Much of what is truly professional in a teacher's life is a private process of applying theoretical knowledge to particular cases, problems, and situations" (p. 7). Clark and Yinger call for continued research on teacher thinking because they believe a more public description of the processes of teacher thinking may facilitate professional communication. Rather than the formulation of general laws of human behavior, Clark and Yinger see the main benefit of investigation of the mental lives of teachers as being the development of a set of concepts useful for "thinking about, organizing and making sense of the classroom world" (p. 7). They call this descriptive type of research "conceptual research" as opposed to decision-oriented or conclusion-oriented research. Although research on teacher thinking is generally conceived of as descriptive rather than prescriptive, Clark (1978) views it as playing a vital role in the application of research to practice:

> Research on teacher thinking is a logical outgrowth of research approaches that emphasize teacher behavior. But teacher behavior sensible and effective in one setting may be inappropriate in another, and it is the individual teacher who has to define the teaching situation and make decisions about appropriateness. So if research is to be put into practice--if the general case is to be applied in particular situations--then researchers must know more about how teachers exercise judgment, make decisions, define appropriateness and express their thoughts in their actions. (p. 1)

The limited number of studies of teacher thinking have been conducted almost exclusively in the area of regular education. Some of the findings of research in regular education very likely are applicable in special education; however, the situation and the constraints operating in special education settings are generally very different from regular education. For example, special education teachers usually deal with fewer students--sometimes instruction is on an individual basis. Also, they often must coordinate instruction with another teacher and their instruction may be determined in part by that teacher. They generally have much more diagnostic information available about a student and must operate under the constraints of a law that requires a written educational plan with specified goals and objectives.

A few investigators have examined decisions made about a student before the student actually starts receiving special education services (e.g., classification and placement decisions), but little is actually known about what happens to students instructionally once they are in special education. Much has been written about recommended instructional practices of special education teachers, but writers generally have not considered what it is that special education teachers currently are doing and why they are doing what they do. Yet, the degree to which teachers are willing to modify their practices in response to the suggestions of researchers very likely is strongly related to their current practices and their reasons for operating as they are.

In the present study, learning disabilities teachers were surveyed about their current instructional practices and the bases for

these practices. Previous analyses of the data collected (Mirkin & Potter, 1982; Potter & Mirkin, 1982) were global in nature and few conclusions could be drawn due to the great amount of variability present. The current study examined the data more closely to ascertain the extent to which relationships between the kinds of information used, the types of decisions made, teacher characteristics, and student characteristics could be identified. The specific research questions were as follows:

1. Are specific kinds of information perceived as differentially useful in making several different types of decisions?

2. To what extent is the use of different kinds of information a function of individual differences in teachers? That is, do different kinds of teachers use different kinds of data in making instructional decisions?

3. To what extent is the use of different kinds of information a function of individual differences in students? That is, do teachers use different data in making decisions about different types of students?

4. Are the specific instructional decisions made a function of the type of information used to make those decisions?

5. Are the specific decisions made a function of teacher characteristics?

6. Are the specific decisions made a function of student characteristics?

7. Is evaluation conducted during instruction related to the likelihood that a teacher will make changes in the instructional program?

Method

Subjects

A program planning and implementation survey was sent to 373 randomly selected members of the Council for Learning Disabilities of

the Council for Exceptional Children. Of the 373 surveys mailed, 34% (n = 128) were returned completed and 9% (n = 34) were returned blank (total return = 43%). Completed surveys were returned by learning disabilities teachers in 42 states (21 in the New England region, 51 in the North Central region, 33 in the South region and 22 in the Western region). The responding subjects were distributed fairly evenly among rural (27%), suburban (34%), and urban (28%) school districts (unknown = 10%). Most (88%) of the teachers were female, almost three-quarters (73%) held at least a master's degree, and the average number of years teaching special education students was 6.3 (range = 1-16; SD = 3.7). Fifty-two percent of the teachers reported that they taught elementary school students, 13% said they taught in middle schools or junior high schools, and 14% taught in senior high school settings. The remaining teachers reported teaching at more than one level, taught in ungraded settings such as vocational/ rehabilitation centers, or did not report the level at which they taught. Subjects providing direct instructional services (n = 120) reported serving an average of 19.3 students each (range = 1-60; SD = 9.3; median = 16.7). Fifty-one teachers (32%) indicated that they provided indirect service to an average of 38 students each (range = 1-1,000; SD = 133.8; median = 5.2).

Each teacher was asked to describe the instructional program for one student. The average age of the students whose programs were described was 11.5 years (range = 4-18; SD = 3.1). Third grade (16%) and fourth grade (14%) were the most frequently reported grades; the remaining students were fairly evenly distributed across grades 1-11,

with one student in grade 12 and one in preschool. Of the 119 students whose race was reported, three quarters (76%) were reported to be Caucasian, 13% were black and 4% belonged to other races. Thirty-two percent of the students were reported to have received special education services for more than three years; 30% of the students had received services for one year or less. Thirty-six percent of the teachers indicated that they worked with the student for more than one year.

Materials

A comprehensive program planning and implementation survey was developed. This survey was six pages in length and consisted of eight sections: (a) school and teacher information, (b) student information, (c) selection of IEP goals and objectives, (d) program description, (e) determinants of the program, (f) changes in the original instructional plan, (g) evaluation of progress, and (h) miscellaneous. Items were designed to allow the respondent to either check the answer desired or to fill in a number corresponding to answers listed on an accompanying sheet. Copies of the data gathering forms may be found in Appendix A.

Procedure

Surveys were mailed to a random sample of CLD members in the late spring. For the first 200 surveys mailed, reminder notices were sent to those who had not responded by the time the second set of 173 surveys were mailed. Teachers were asked to complete the survey with the program of only one of their students in mind. If the teacher's caseload was approximately 15 students this student was to be selected

according to a random number between one and 15 assigned to each survey. If the teacher did not have approximately 15 students on his/her caseload the teacher was to devise a method to randomly select a student. In return for completing the survey, teachers were offered an IRLD research report or monograph.

Because of the relatively restricted sample size and large number of specific kinds of information cited by survey respondents, where feasible, items were grouped into categories to make data analysis more manageable. Items where responses were categorized included: (a) region of the United States (obtained from the code number assigned each questionnaire), (b) number of years in special education (teacher), (c) number of students per teacher receiving direct service, (d) student grade, (e) race, (f) year student started special education, (g) year the respondent began working with the student, (h) level of service student currently received, (i) sources of information for long term goals and short term objectives, (j) influences on decisions about time, materials, methods and motivational strategies used, (k) type of ongoing evaluation used, (l) amount of time service was received in academic areas, (m) type of materials, methods and motivational strategies used, and (n) characteristics of and reasons for learning disabilities. The categories used and the responses in each category for the above items may be found in Appendix B.

Data analyses. Only first choice responses were used in data analyses except for items dealing with the characteristics of and reasons for learning disabilities. Chi-square analyses of frequency

data were used to address Research Questions 2-6. Because of the large number of chi-square analyses run, the level of significance was set a priori at .01. Research Question 7 was addressed through the use of one-way analysis of variance since both continuous and categorical variables were used in the analysis. The significance level for these tests was set at .05.

Results

The first question addressed was "Are specific kinds of information perceived as useful in making different types of decisions?" Survey responses were examined to ascertain the extent to which individual teachers cited the same type of information as being the major influence in making different types of decisions. As can be seen in Table 1, most teachers (57.8%) were inconsistent in their selection of the type of information perceived as useful in determining long term goals and short term objectives. The category with the highest degree of consistency across long term goals and short term objectives was "Tests" (25.8%). When it came to determining time, methods and materials there was considerably more consistency overall. In this case, consistency was defined as items in the same category of potential influences being selected in at least two of the three areas of "time", "materials" and "methods". Items in the category "observation/experience" were selected by 44.5% of the teachers in at least two of the three areas. "Tests" were the most favored source of information for 17.2% of the teachers, while consultation or constraints were reported influential in two or more areas by 14.8% of the teachers.

Insert Table 1 about here

The data also were examined to determine whether the teachers who relied on one type of information in selecting long term goals and short term objectives also relied on that type of information when selecting the amount of time services would be provided, the materials used, and/or the methods used. Almost 90% of the teachers reported relying on different types of information in making these different types of decisions.

The second research question was "To what extent is the use of different kinds of information a function of individual differences in teachers?" The choices of influential factors in making decisions about long term goals, short term objectives, time, methods, materials and motivational strategies were examined in relation to geographical region of the country, the number of years of experience the teacher had in special education and the number of students on his/her caseload. Chi-square analyses revealed no relationships significant at the .01 level or better.

Research question three was "To what extent is the use of different kinds of information a function of individual differences in students?" Types of information perceived by subjects as influential in decision making were looked at in relation to characteristics of the students whose programs were described. Student characteristics examined were: grade, race, number of years in special education and level of service received. In only one case was a student

characteristic related to the type of information reported as influential in making decisions about long term goals, short term objectives, time, materials, methods or motivational strategies. The level of service received was related to the type of information perceived as useful in making decisions about long term goals (χ^2 = 16.57, p = .002, Cramer's V = .28). It appears that long term goals for students receiving minimal special education services (Level I or II - monitoring or consultation) are determined chiefly on the basis of observational information whereas the majority of students receiving Level III services (up to three hours per day) had long term goals that were derived primarily from information on pupil performance on tests. Teachers of students receiving a greater amount of service (Level IV, V or VI) were divided fairly evenly between viewing test information or observational information as most influential in determining long term goals. Level of service, however, like the other student characteristics, was not related to types of information used to make decisions about short term goals, time, materials methods, or motivational strategies.

Research question four was "Are specific instructional decisions a function of the type of information used to make those decisions?" The responses of the teachers participating in the survey study indicated no relationship between factors said to influence particular types of decisions and the actual outcome of those decisions about amount of service, materials, methods and motivational strategies.

The fifth question addressed was "Are specific decisions made a function of teacher characteristics?" Specific materials, methods and

motivational strategies used in reading, math, and spelling were examined in relation to teacher characteristics of geographical region, number of years of experience in special education, and number of students on their direct service caseload. Chi-square analyses revealed no significant relationships between teacher characteristics and specific decisions.

The sixth research question addressed was "Are specific decisions a function of student charateristics?" Materials, methods and motivational strategies used in reading, math and spelling were examined in relation to student characteristics of grade, race, year the student began special education services and level of service received. The only significant relationship indicated that elementary and secondary level students were using different types of materials in the area of spelling ($\chi^2 = 10.03$; $p = .007$; Cramer's V = .44). For the students in this sample, more than half (51.5%) of those in grades 1-6 were reported to use textbooks as their primary material, with 36.4% relying on commercial or local program materials and 28.6% relying on other materials. In contrast, students in grades 7-12, more often were reported to use other materials (50.0%) and less often were reported to rely on textbook materials (20.0%).

The last question asked was "Is evaluation conducted during instruction related to the likelihood that a teacher will make changes in the instructional program?" Because "likelihood of change" could be treated as a continous variable, one-way analyses of variance were used for the statistical analyses for this research question.

Data for the one-way analyses of variance on types of ongoing evaluation in the areas of reading, math and spelling and the

likelihood of changes in time, materials, methods, and motivational strategies are listed in Table 2. Three of the twelve analyses of variance were significant at the .05 level or better. Student-Newman-Keuls post hoc tests indicated that in the area of reading, teachers who relied on observational-type data in ongoing evaluation were less likely to make changes in materials than teachers who relied on test-based or other types of evaluation procedures. Similarly, changes in instructional time in reading were less likely to be made by teachers who relied on observational data than by teachers who used test-based evaluation. When the likelihood of making changes in methods was considered, only in the area of spelling was the type of evaluation related to the likelihood of change. A Student-Newman-Keuls post hoc test indicated that teachers who reported using observational and other non-test-based evaluation information were less likely to make changes in methods than were teachers using test-based evaluation aproaches.

Insert Table 2 about here

Discussion

In this study, data gathered through comprehensive surveys of special education teachers serving learning disabled students were examined. The goal of this examination was to identify any relationships between teacher or student characteristics and specific instructional decisions made, or between teacher or student characteristics and the factors perceived by the teachers to influence

those instructional decisions. It was found that the teachers generally did use different types of information in making different kinds of decisions. However, except for the finding that the teachers who relied on test-based information in their ongoing instructional evaluations were more likely to make program changes than were the teachers who primarily used observational information, no relationships were found between teacher characteristics and specific decisions or factors influencing decisions. Likewise, the only findings relating to student characteristics were in regard to grade in school and spelling materials and in regard to level of service and information used in determining long term goals. When it is considered that 136 statistical comparisons were examined, the fact that so few relationships between variables were found is in itself significant. The findings of this study of special education teachers, then, are consistent with studies of regular education teachers which have found much variability, non-predictability, and complexity in decision behavior (e.g., Bawden, Buike, & Duffy, 1978; Gil, Hoffmeyer, Van Roekel, & Weinshank, 1979; Morine, 1976; Yinger, Clark, & Mondol, 1980).

In any survey research, consideration must be given to bias in the results due to differences between those who do respond and those who do not respond to the survey. In this case, those who responded were those who were willing to spend up to an hour or more completing a detailed six page questionnaire. These were also teachers willing to share information on how they teach. While the teachers were asked to make a random selection of a student from their case load whose

program they would describe, it is likely that if the student was not selected randomly, the student who was selected would be one that the teacher felt was a typical LD student, had a typical instructional program, or had a program that the teacher wanted to use as a best case example.

Surveys were sent only to members of a professional organization specifically focusing on the education of learning disabled students. Since members of this organization regularly receive professional literature, it is likely that the subjects in this study are more up-to-date on professional approaches than many nonmember teachers. Furthermore, these were experienced teachers; they had taught special education students for an average of over six years. The vast majority of these experienced teachers apparently believed that they had found effective ways to instruct learning disabled students. In fact, 93% of the teachers indicated satisfaction with the methods used to teach the target student and 84% indicated that they felt the student was making satisfactory progress (Mirkin & Potter, 1982). The sample of instructional programs upon which this study is based most likely is biased, but it undoubtedly is biased in the direction of best practice rather than worst practice. Thus, in a study examining instructional decision practices and instructional programs for a specific group of students (those identified as learning disabled), a study biased toward best-case examples, there is overwhelmingly more variability than commonality in both the instructional programs and in the type of information used in choosing the instructional programs.

The cognitive processes of teachers began to interest educational researchers when the search for correlates of effectiveness among

teacher personality characteristics, specific teaching methods or materials yielded only equivocal results. The assumption in the examination of cognitive processes is that it is the cognitive behavior of individual teachers that determines the instructional process used with a student and that if this cognitive behavior can be understood, characteristics of effective teaching may be identified. The ultimate goal of research on teacher effectiveness logically is to find ways of improving effectiveness. What many teachers and teacher trainers would like is an "effectiveness cookbook" that is, "if you do x, y and z you will be an effective teacher." Yet, as Glass (1983) points out, the cookbook approaches tried to date have only been spectacular in their great varibility in effects from study to study. He concludes that,

> In the behavioral sciences and education we possess a few general interventions of verified effectiveness ... that produce moderate benefits on the average, but benefits that vary greatly (from ineffective to very effective) in a manner that is essentially unpredictable (p. 77)

What about judgment theory, decision theory, problem solving theory - cannot any or all of these be usefully applied toward characterizing educational decisions? Perhaps they can; however, success in research along these lines to date has been less than encouraging (see for example Yinger, Clark, and Mondol's, 1981, application of a policy-capturing model). Researchers who try to apply theoretical models often end up combining components of different theories in an attempt to represent adequately the decision processes they are studying (e.g., Elstein, Shulman, & Sprafka, 1978; Olshavsky, 1979; Payne, Braunstein, & Carroll, 1978; Shavelson, 1978).

While to be totally atheoretical might avoid of the hazards of trying to fit complex data to imperfect models, the benefits of the organizational structures of the models are lost. Like Tversky and Kahneman's (1974) decision heuristics, although models can lead tc severe and systematic errors, on the whole they can often be useful in guiding research. One just must realize that models are frequently as much a product of historical accident as they are a product of verifiable data. Edwards (1971) proposes that had Egon Brunswik known the Bayesian ideas of probability theory when he was looking for a method of examining a fallible probabalistic environment, he may well have adopted that approach rather than focusing on the use of correlational statistics. Feigl (1955) also addressed the arbitrary nature of models in a response to an article of Brunswik's (1955) which had outlined the Brunswikian ideas of design and theory in functional psychology:

> Brunswik knows, perhaps better than anyone else, that the subject matter of a science can be "carved out" in a number of ways. Ultimately there is only one criterion by which scientists decide which ways of "focusing" are preferable: "By their fruits ye shall know them." But what sort of fruits are desirable depends on one's interests. (p. 233)

Up until this point in time, the harvest of "fruits" derived from the application to education of any of the theories of reasoning has not been large. However, it is questionable whether educators could even agree on what fruits are desirable. Before it can be determined how to make instruction more "effective," educators would have to agree on what "effective" means. The teachers in the present study almost universally seem to believe that the instruction they are

providing is fairly effective. Yet, Glass (1983) puts forth overwhelming objective evidence that certain kinds of special education programs are not effective. Rather than automatically assuming the supremacy of objective research data over subjective teacher reports, perhaps it is the definition of "effective" that needs to be examined. To a teacher, an instructional program generally is considered effective if the student is learning what the teacher believes the student should be learning. The studies upon which Glass bases his conclusions are experimental comparison studies where effectiveness is defined in terms of the test performance of a treatment and a control group. A student's program considered effective according to one definition, may not be considered effective by another definition.

Recommendations for Future Research

A top IBM research scientist was given a company fellowship a few years ago to work on relating his expertise in computer memory to the workings of the human mind. "'I couldn't hack that one at all,' he [said]. 'I went back to silicon technology.'" (Pauly & Lubenow, 1983, p. 58) Perhaps in education we, too, need to pull back on attempts to fathom the complexities of human cognition. Rather than trying to find commonalities between teachers, it may be more profitable at this point in time to recognize the uniqueness of each teacher and each teacher-pupil relationship. It may, however, be useful to help teachers think about and become consciously aware of how they do make instructional decisions and to expose them to alternative practices. Knowledge of the materials and techniques of education and knowledge

of the currently understood processes of decision making need to have joint emphasis in teacher training and inservice programs. By understanding some of the principles of such things as bounded rationality, problem definition, decision heuristics and planning models, teachers might be able to define problems more easily, identify alternatives and then choose among those alternatives.

Educational "cookbooks" may prove useful in organizing the massive amount of informational content that currently exists and is constantly expanding in education. However, to rely on a "cookbook" to make decisions rather than to provide information for decisions is to ignore the apparent uniqueness of each teacher-pupil instructional interaction.

Efforts to improve the effectiveness of educational programs need to continue, but since situational constraints and educational philosophies vary greatly from school to school, it may prove more practicable to base evaluations of "effectiveness" on local rather than general definitions of what constitutes an effective educational program. Rather than searching for universal truths, research efforts could focus on helping individual districts determine criteria for effectiveness, ways of evaluating whether their teachers are being effective, and ways of helping the teachers to be effective.

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Footnote

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Table 1

Consistency in Types of Factors
Perceived as Influential in Decisions

	Type of Decision					
	Goals and Objectives		Time Materials, Methods[a]		Across all Areas	
Category	n	%	n	%	n	%
Tests	33	25.8	22	17.2	7	5.5
Observation/ Experience	15	11.7	57	44.5	4	3.1
Consultation/ Constraints	6	4.7	19	14.8	2	1.6
No Consistency	74	57.8	30	23.4	115	89.8

Table 2

One-Way Analysis of Variance: Likelihood of Changes by Evaluation Conducted During Instruction

	Type of Ongoing Evaluation										
	Tests			Observation			Other				
		$\bar{X}$	SD		$\bar{X}$	SD		$\bar{X}$	SD	F Ratio	F Prob	S-N-K
Time												
Reading	(31)	2.71	.78	(44)	2.23	.77	(35)	2.43	.81	3.40	0.04	1>2
Math	(21)	2.57	.81	(38)	2.53	.80	(37)	2.22	.82	1.87	0.16	
Spelling	(22)	2.54	.86	(52)	2.40	.91	(19)	2.32	.67	0.39	0.68	
Materials												
Reading	(31)	3.16	.58	(44)	2.64	.84	(35)	2.97	.62	5.36	0.006	3,1>2
Math	(21)	3.10	.54	(38)	2.79	.74	(37)	2.94	.62	1.53	0.22	
Spelling	(22)	3.18	.59	(52)	2.86	.77	(19)	2.84	.69	1.72	0.18	
Methods												
Reading	(31)	3.00	.58	(44)	2.68	.83	(35)	2.83	.62	1.88	0.16	
Math	(21)	3.10	.54	(38)	2.87	.70	(37)	2.76	.64	1.84	0.16	
Spelling	(22)	3.18	.66	(52)	2.79	.70	(19)	2.63	.83	3.42	0.04	1>3,2
Motivational Strategies												
Reading	(31)	3.06	.81	(44)	2.93	.87	(35)	2.83	.66	0.72	0.49	
Math	(21)	3.10	.89	(38)	3.03	.85	(37)	2.84	.69	0.85	0.43	
Spelling	(22)	3.27	.77	(52)	2.92	.81	(19)	2.79	.63	2.32	0.10	

APPENDIX A

Program Planning and Implementation Survey

PROGRAM PLANNING AND IMPLEMENTATION SURVEY

PART A SCHOOL AND TEACHER INFORMATION

Type of School: _____Rural _____Suburban _____Urban

_____Elementary _____Middle/Jr. High _____Secondary/Senior High

Teacher Information: _____Female _____Male

How many years have you taught Special Education students?_____

Please identify the highest degree you hold_____

Approximately how many children do you serve each day?

Number served: _____Direct service _____Indirect service

For the remainder of the survey, respond to items while keeping in mind the program of the student selected according to the attached directions.

PART B STUDENT INFORMATION

1. For this particular student: _____Age _____Grade _____Race
2. Month and year Special Education service began_____
3. Month and year you started working with this student_____
4. Date the current Individual Educational Plan (IEP) was written_____
5. Date of the last IEP periodic review_____
6. What level of service do you provide this student? Circle one.

   Level:

   I - Monitoring
   II - Consultation
   III - Direct service - up to 4 hours/day
   IV - Direct service - more than 4 hours/day
   V - All day, self-contained
   VI - Special School/Residential

7. How much Special Education service does this student receive in the following areas:

Area	# Min/day	#Days/wk	Area	# Min/day	# Days/wk
Reading	_____	_____	Written Language	_____	_____
Math	_____	_____	Other	_____	_____
Spelling	_____	_____	(Specify):_____		

8. What are the criteria for a student to be classified as learning disabled in your school/district?

PART C SELECTION OF IEP GOALS AND OBJECTIVES

If you were not involved in writing this student's IEP, skip this part and go on to PART D.

Use the items listed in Section C of the accompanying form (the blue sheet) to respond to the following questions. Please rank order your answers from most important to least important.

What sources of information do you feel were the most important in determining -

a. Long term goals:

Item #_____, _____, _____

If "Other," #19, was used, please specify:_____

b. Short term objectives:

Item #_____, _____, _____

If "Other," #19, was used, please specify:_____

PART D PROGRAM DESCRIPTION

1. For each area listed below, check whether the instruction you provide is in place of or supplementary to classroom instruction.

Area	In place of	Supplementary	Area	In place of	Supplementa
Reading	_____	_____	Written Language	_____	_____
Math	_____	_____	Other (specify):_____	_____	_____
Spelling	_____	_____			

For Questions 2, 3, and 4, within each area in which you provide instruction, please asterisk (*) the material, method, and motivational strategy you rely on the most with this student. Check (√) anything else used regularly within each academic area.

2. Material	Examples	Reading	Math	Spelling	Other ( )
Child's classroom text		_____	_____	_____	_____
Other standard texts		_____	_____	_____	_____
Commercial programs	DISTAR, Frostig, KeyMath	_____	_____	_____	_____
Locally developed programs	Math/reading programs	_____	_____	_____	_____
Consumables	Workbooks, worksheets	_____	_____	_____	_____
Manipulables	Cuisinaire rods, flannel board	_____	_____	_____	_____
Other (specify):_____		_____	_____	_____	_____

3. Method	Examples	Reading	Math	Spelling	Other ( )
Work on subskills	Regrouping in subtraction Syllabication Comprehension skills	____	____	____	____
Practice	Oral reading practice Writing times tables Isolated word practice Writing in journals	____	____	____	____
Modality training	VAKT (visual, auditory kinesthetic, tactile)	____	____	____	____
Modeling	Student listens to selection before reading Student reads while teacher reads Student imitates solving of math problem	____	____	____	____
Games and machinery	Tape recorder Language master Computer games	____	____	____	____
Other (specify):_____		____	____	____	____

4. Motivation	Examples	Reading	Math	Spelling	Other ( )
Social reinforcers	Verbal praise, posted praise, working with friend, positive note home	____	____	____	____
Activity reinforcers	Use typewriter, have free time have early dismissal, be office assistant, do favorite school work	____	____	____	____
Concrete reinforcers	Candy, stars, stickers, money school materials	____	____	____	____
Indirect reinforcers	Earn points, tokens, checkmarks, etc., to trade in for a reinforcer	____	____	____	____
Contracts	Between student and teacher; between student, teacher, and parent	____	____	____	____
Self-management strategies	Having student charting his/her own data; scoring his/her own tests; self-monitoring of time on task	____	____	____	____
Punishment procedures	Time out, response cost, error correction, sad faces, red checkmarks, fines	____	____	____	____
Other (specify):_____		____	____	____	____

Over, please

PART E DETERMINANTS OF THE PROGRAM

Use the items listed in Section E of the blue form to respond to the following questions. Please rank order your answers from most important to least important.

What factors have been most influential in determining -

a. The amount of time the student receives services:

Item #_____, _____, _____

If "Other," # 23, was used, please specify: _____

b. The materials used:

Item #_____, _____, _____

If "Other," # 23, was used, please specify: _____

c. The methods used:

Item #_____, _____, _____

If "Other," # 23, was used, please specify: _____

d. The motivational strategies used:

Item #_____, _____, _____

If "Other," # 23, was used, please specify: _____

PART F CHANGES IN ORIGINAL INSTRUCTIONAL PLAN

How likely are you to make any changes in your instructional plan for this student between periodic reviews? (See PART D for examples of materials, methods, and motivational strategies.)

	Very Unlikely	Unlikely	Likely	Very Likely
Change materials	1	2	3	4
Change methods	1	2	3	4
Change motivational strategies	1	2	3	4
Change time allocation, student/ teacher ratio, etc.	1	2	3	4

Generally, what is the basis for your decision to make changes, or not to make changes, in this student's program? Rank order, please.

_____objective performance data

_____personal observation of student progress

_____external constraints (scheduling, changes in classroom curriculum, etc.)

_____other (specify): _____

PART G EVALUATION OF PROGRESS

Use the items listed in Section G of the blue form to respond to question 1.

1. What, if any, type of evaluation information do you collect in each of the areas in which you provide instruction? Please rank order your answers from most important to least important and indicate the frequency with which you use each form of evaluation (e.g., daily, 2X/week, monthly, etc.)

Area	Type of Evaluation (List item #)	Frequency
Reading	1._____	_____
	2._____	_____
	3._____	_____
Math	1._____	_____
	2._____	_____
	3._____	_____
Spelling	1._____	_____
	2._____	_____
	3._____	_____
Written Language	1._____	_____
	2._____	_____
	3._____	_____
Other (specify)	1._____	_____
_____	2._____	_____
	3._____	_____

2. Where do you record information about this student's performance/progress?

_____No written records kept _____Checklists

_____Charts and/or graphs _____File samples of work

_____Grade book _____Other (specify):_____

3. Of the total amount of instructional and preparatory time devoted to this student, what percentage would you estimate you spend in performance/progress evaluation activities? Circle one.

up to 10% 11-20% 21-30% 31-45% 46-60% 61-75% more than 75%

Under ideal conditions, would you like to see this percentage of time:

_____increased _____stay the same _____decreased

Over, please

4. How is evaluation information used with this student? Please asterisk (*) the major use and check (✓) any others that apply. Also, indicate the approximate frequency of each use.

	Frequency
_____Not used	_____
_____Discuss progress with student	_____
_____Discuss progress with parent	_____
_____Discuss progress with regular classroom teacher	_____
_____Consult with lead teacher, principal, special education director, etc.	_____
_____Send notes home	_____
_____Change instructional plan (materials, methods, etc.)	_____
_____Decide when to review, reteach	_____
_____Monitor progress on IEP goals and objectives	_____
_____Review progress with team	_____
_____Modify IEP goals and objectives	_____
_____Assign grades	_____
_____Other (specify):_____	_____

PART H MISCELLANEOUS

1. How satisfied are you with this student's program in terms of:

	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied
a. Materials available	1	2	3	4
b. Amount of instructional time	1	2	3	4
c. Methods you are using	1	2	3	4
d. Ability to monitor progress	1	2	3	4
e. The student's progress	1	2	3	4

2. If this student has made appreciable progress by the time of the annual review, to what do you think this will mainly be due? Please rank order.

_____The instructional approach used

_____The material used

_____The additional instruction time spent in target areas

_____The lower student/teacher ratio

_____Increased student motivation

_____Ability to closely monitor student progress and make changes when needed

3. We welcome any comments you have on this survey or the instructional or evaluation process in general.

Use the following items in responding to questions in Part C, E, and G of the survey. The sections on this form are labeled to correspond with the portion of the survey for which those items are appropriate. These lists are by no means exhaustive. Please feel free to use the category "other"; we just ask that you specify what "other" stands for in the appropriate space on the survey itself.

Section C — Sources of Information

1. Overall scores on ability tests
2. Overall scores on achievement tests
3. Pattern of scores on ability tests
4. Pattern of scores on achievement tests
5. Discrepancies between ability and achievement tests
6. Other standardized assessments
7. Performance on criterion-referenced measures
8. Progress on previous IEP objectives
9. Informal assessments done during previous instruction
10. Other informal assessments
11. Personal observation of student performance
12. Behavioral observations/information
13. Classroom teacher's priorities
14. Parental input/priorities
15. Input of other team members
16. Constraints of times, materials, teachers available
17. District policies
18. A commercial or locally constructed list of long-term goals, short-term objectives, and/or instructional suggestions
19. Other

Section E — Influential Factors

1. Demonstrated ability on psychological tests
2. Performance on standardized tests
3. Performance on informal measures
4. Formal observation
5. Medical information (hearing, medications, etc.)
6. Family information
7. Referring teacher's statement of original referral problem
8. Classroom teacher's comments on classroom progress
9. Classroom teacher's requests
10. Material covered by regular classroom
11. Student characteristics (e.g., attention span, motivation, social skills, etc.)
12. Past experience with student
13. Past experience with students with similar problems
14. Materials available
15. Your caseload
16. Rest of student's schedule
17. Other students taught at same time
18. Policy of lead teacher/school/district
19. Instructor's guide(s) for text(s)
20. Consultation with others (aside from classroom teacher and parents)
21. Parent requests
22. College coursework, professional journals, workshops, etc.
23. Other

Section G — Types of Evaluation

1. Standardized achievement tests
2. Standardized diagnostic measures
3. District developed tests
4. Basal text mastery tests
5. Criterion referenced measures
6. Direct and frequent measurement (precision teaching-type)
7. Teacher-made tests/oral quizzes
8. Scoring workbooks
9. Scoring worksheets
10. Amount of work completed
11. Number of correct flashcards
12. Listening to oral reading
13. Oral, silent timings
14. Informal observation of student performance
15. Formal observation
16. Consultation with classroom teacher regarding classroom performance
17. Check number of short-term objectives mastered
18. Other

APPENDIX B

Categorization of Data

Regions of the United States

New England

Connecticut
Maine
Massachusetts
New Hampshire
New Jersey
New York
Pennsylvania
Rhode Island
Vermont

North Central

Illinois
Indiana
Iowa
Kansas
Michigan
Minnesota
Missouri
Nebraska
North Dakota
Ohio
South Dakota
Wisconsin

South

Alabama
Arizona
Delaware
Florida
Georgia
Kentucky
Louisiana
Maryland
Mississippi
North Carolina
Oklahoma
South Carolina
Tennessee
Texas
Virginia
West Virginia
District of Columbia

West

Alaska
Arkansas
California
Colorado
Hawaii
Idaho
Montana
Nevada
New Mexico
Oregon
Utah
Washington
Wyoming

Note. Based on the regional breakdown used by the U.S. Census Bureau.

Number of Years Respondent has Taught Special Education

Number of Years	Category
1-2	Inexperienced
3-5	Moderately experienced
More than 5	Very experienced

Number of Students Per Teacher Receiving Direct Service

Number of Students	Category
1-15	A
16-25	B
More than 25	C

Student Grade in School

Grade	Category
1-6	Elementary
7-12	Secondary

Race of Student

Race	Category
Caucasian	Caucasian
Black, Hispanic Native American, Other	Minority

Year Student Started Special Education

Year	Category
1972-1976	A
1977-1979	B
1980-1981	C

Year Respondent Began Working with Student

Year	Category
1973-1979	A
1980-1981	B

Level of Service Student Currently Received

Level	Category
I, II	Minimal Service
III	Resource Room
IV, V, VI	Majority Special Education

Amount of Time Service Was Received in Academic Areas

Minutes per Day	Category
1-15	A
16-45	B
More than 45	C

Materials Used in Instructing Target Students

Material	Category
classroom texts	texts
other texts	
commercial programs	programs
local programs	
consumables	other
manipulables	
other	

Methods Used in Instructing Target Students

Method	Category
subskills	subskills
practice	practice
modality training	other
modeling	
games and machinery	

Motivational Strategies Used in Instructing Target Students

Motivation	Category
social reinforcers	social
activity reinforcers	reinforcers
concrete reinforcers	
indirect reinforcers	

Characteristics of Learning Disabled Students

Category	Examples of Responses
A) Neurological/Within Child	processing/memory difficulties attentional problems distractibility perceptual/motor problems organizational problems
B) Motivation	motivational problems social/behavioral problems
C) Academically oriented	poor academic achievement need for special program ability/achievement discrepancies

Reasons Why Some Children are Learning Disabled

Category	Examples of Reasons
D) Within Child	heredity faulty wiring genetic brain injury
E) Environmental	poor teaching environment learned behavior

Categorization of Response Choices for Survey Parts C, E and G

SOURCES OF INFORMATION FOR LONG TERM GOALS AND SHORT TERM OBJECTIVES

Tests

- Overall scores on ability tests
- Overall scores on achievement tests
- Pattern of scores on ability tests
- Pattern of scores on achievement tests
- Discrepancies between ability and achievement tests
- Other standardized assessments
- Performance on criterion-referenced measures

Observation of Performance

- Progress on previous IEP objectives
- Informal assessments done during previous instruction
- Other informal assessments
- Personal observation of student performance
- Behavioral observations/information

Consultation/Constraints

- Classroom teacher's priorities
- Parental input/priorities
- Input of other team members
- Constraints of times, materials, teachers available
- District policies
- A commercial or locally constructed list of long-term goals, short-term objectives, and/or instructional suggestions

INFLUENTIAL FACTORS

Test Based and Objective Information

- Demonstrated ability on psychological tests
- Performance on standardized tests
- Performance on informal measures
- Formal observation
- Medical information (hearing, medications, etc.)

Experiential Factors

- Student characteristics (e.g., attention span, motivation, social skills, etc.)
- Past experience with student
- Past experience with students with similar problems
- College coursework, professional journals, workshops, etc.

Consultation/Constraints

- Materials available
- Your caseload
- Rest of student's schedule
- Other students taught at same time
- Policy of lead teacher/school/district
- Instructor's guide(s) for text(s)
- Family information
- Consultation with others (aside from classroom teacher and parents)
- Parent requests

TYPES OF EVALUATION

Formal Tests

- Standardized achievement tests
- Standardized diagnostic measures
- District developed tests
- Basal text mastery tests
- Formal observation

Informal Tests

- Criterion referenced measures
- Direct and frequent measurement (precision teaching-type)
- Teacher-made tests/oral quizzes
- Oral, silent timings
- Check number of short-term objectives mastered

Observation of Performance/Consultation

- Scoring workbooks
- Scoring worksheets
- Amount of work completed
- Number of correct flashcards
- Listening to oral reading
- Informal observation of student performance
- Consultation with classroom teacher regarding classroom performance